



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,143	10/30/2003	Robert Hoenig	15627-002001	9774
26161	7590	03/17/2005	EXAMINER	
FISH & RICHARDSON PC 225 FRANKLIN ST BOSTON, MA 02110			HUNNINGS, TRAVIS R	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/697,143

Applicant(s)

HOENIG, ROBERT

Examiner

Travis R Hunnings

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 8, 12-16 and 20-22 is/are rejected.
- 7) ☒ Claim(s) 4-6, 9-11, 17-19 and 23-27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: element 30 in figures 5 and 6 is not described in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

3. The disclosure is objected to because of the following informalities: the number '47' on page 8, line 16 should be changed to '147' and the word 'PVT' on page 6, line 22 should be changed to 'PZT'.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country; more than one year prior to the date of application for patent in the United States.

5. Claims 15 and 20-22 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nelson (US Patent 5,903,218).

Regarding claim 15, Nelson disclose *Pool Alarm* that has the following claimed subject matters:

The claimed pool intrusion detection method comprising generating an electrical signal in response to receiving a pressure wave in the liquid of a pool is met by the transducer receiving positive and negative pressure changes in swimming pool water and operative to generate corresponding electrical signals (col2 30-59);

The claimed pool intrusion detection method comprising generating a trigger signal in response to receiving the electrical signal when the electrical signal includes a

characteristic signature over a time period within a predetermined range of time periods is met by the processing circuit including alarm condition detection circuitry that is operative to generate an alarm signal in response to the values of two count values which are generated by a pulse width discriminator generating qualified crest and trough wave signals according to first and second predetermined time intervals during a given period of time that encompasses the detection of an intrusion event (col2 30-59).

Regarding claim 20, Nelson discloses all of the claimed limitations. The claimed pool intrusion method wherein the predetermined range of time periods consists of time periods less than 4 seconds is met by the first and second predetermined time periods of Nelson consisting of time periods of 125 ms and 750 ms (col7 7-67 and col8 1-25).

Regarding claim 21, the claim is interpreted and rejected as claim 20 stated above. It would be obvious to adjust the time periods of Nelson to accommodate different pool conditions, e.g. size and shape, and to accommodate different sensitivity levels.

Regarding claim 22, Nelson discloses all of the claimed limitations. The claimed pool intrusion method further comprising generating a sound in response to the trigger signal is met by the annunciator means, further being defined as a speaker, generating an alarm in response to an alarm signal from the processing circuit (col2 30-59 and col16 58-65).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson.

Regarding claim 1, Nelson discloses the following claimed subject matters:

The claimed processor configured to receive the electrical signal and generate a trigger signal, when the electrical signal includes a characteristic signature over a time period within a predetermined range of time periods is met by the processing circuit including alarm condition detection circuitry that is operative to generate an alarm signal in response to the values of two count values which are generated by a pulse width discriminator generating qualified crest and trough wave signals according to first and second predetermined time intervals during a given period of time that encompasses the detection of an intrusion event (col2 30-59);

However, Nelson does not specifically disclose a hydrophone configured to generate an electrical signal in response to receiving a pressure wave in the liquid of the pool. Nelson discloses a transducer that receives positive and negative pressure

changes in swimming pool water and is operative to generate corresponding electrical signals (col2 30-59). It would be obvious to one of ordinary skill in the art to substitute a hydrophone for the transducer because they are both performing the same function.

Regarding claim 7, the claim is interpreted and rejected as claim 20 stated above.

Regarding claim 8, the claim is interpreted and rejected as claim 21. stated above.

8. Claims 2, 3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson in view of Campbell et al. (Campbell; US Patent 5,959,534).

Regarding claim 2, Nelson discloses all of the claimed limitations except for the claimed system wherein the processor is further configured to determine a trigger level from a background noise level. Campbell discloses *Swimming Pool Alarm* that teaches an integrator/comparator that adjusts for gradual increases in background noise (col10 11-45). Adding a circuit to the system of Nelson to adjust for increases in background noise would make the device more reliable by eliminating potential false-alarms due to high background noise signals. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by

Art Unit: 2632

Nelson according to the teachings of Campbell to allow the processor to determine a trigger level from a background noise level.

Regarding claim 3, Nelson discloses all of the claimed limitations except for the claimed system wherein the processor determines the trigger level by setting a gain of an electrical circuit based on background noise in the electrical signal. Campbell teaches an electrical circuit that alters the gain on an operational-amplifier based on the background noise in the circuit to account for background noise (col10 11-45). Modifying the processor and electrical circuits of Nelson to adjust the gain of an op-amp as taught by Campbell would make the device more reliable by eliminating potential false-alarms due to high background noise signals. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Nelson according to the teachings of Campbell to allow the processor to set a gain of an electrical circuit based on the background noise in the electrical signal.

Regarding claim 16, the claim is interpreted and rejected as claim 2 stated above.

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson in view of Chatigny et al. (Chatigny; US Patent 5,153,859).

Regarding claim 12, Nelson discloses all of the claimed limitations except for the system wherein the hydrophone comprises a piezo-electric material composed of lead zirconate titanate ceramic or polyvinylidene fluoride polymer film. Chatigny discloses *Laminated Piezoelectric Structure And Process Of Forming The Same* that teaches using piezoelectric polyvinylidene fluoride film material in hydrophone applications (col1 30-36). Modifying the hydrophone of Nelson to be made from a piezoelectric polyvinylidene fluoride film would be beneficial because its acoustic impedance is close to that of water and it possesses a hydrostatic stress constant which is greater than that of conventional ceramic piezoelectric materials such as barium titanate or lead zirconate titanate. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Nelson according to the teachings of Chatigny to use piezoelectric polyvinylidene fluoride film to construct the hydrophone.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson in view of Laud (US Patent 4,772,876).

Regarding claim 13, Nelson discloses the following claimed subject matters:

The claimed poolside horn configured to generate a sound in response to the trigger signal is met by the annunciator means (col2 30-59) being further defined as a speaker to announce an alarm when an alarm signal is generated by the processing circuit (col16 58-65);

However, Nelson does not specifically disclose the claimed first antenna configured to periodically send radio-frequency status signals, one or more monitor units which include a second antenna configured to receive the radio-frequency status signals and a monitor horn configured to generate a sound in response to the trigger signal. Laud discloses *Remote Security Transmitter Address Programmer* that teaches a central receiver (monitor unit) that is configured to receive radio-frequency status signals at its antenna from a plurality of sensor/transmitter units, each of which containing an antenna, regarding the status of the sensor/transmitter units that can be configured to monitor alarm conditions including unauthorized entry into a protected area, and the central receiver producing an alert signal (it would have been obvious to use a horn to produce the alert signal in order to alert users better) in response to an alarm condition sent by the sensor/transmitter units (col3 66-68, col4 1-37 and col1 10-33). Implementing the pool monitoring circuit of Nelson in a central monitoring system of Laud would improve the safety of the system of Nelson by allowing the user to be located at a place that is remote of the pool being monitored and yet still being able to be notified when an unauthorized entry into the pool occurs. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Nelson according to the teachings of Laud to modify the device to include a first antenna configured to periodically send radio-frequency status signals, one or more monitor units which include a second antenna configured to receive the radio-frequency status signals and a monitor horn configured to generate a sound in response to the trigger signal.

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson in view of Laud and further in view of Gendel et al. (Gendel; US Patent 6,127,936).

Regarding claim 14, Nelson and Laud disclose all of the claimed limitations except for the claimed system wherein the monitor units are configured to indicate reception of the radio-frequency status signals. Gendel discloses *Apparatus For And Method Of Providing An Indication Of The Magnitude Of A Quantity* that teaches a remote sensor and a central security system that has an LED that indicates reception of a valid signal transmission (col4 20-24). Adding an LED to the monitor units of Nelson and Laud that indicates successful reception of the radio-frequency status signal would give the user a better indication that the system is still functioning properly and when a lack of indication is noticed, the user can then take appropriate action to fix the problem. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by Nelson and Laud according to the teachings of Gendel to include an LED that indicates valid reception of the radio-frequency status signal sent by the poolside monitor.

Allowable Subject Matter

12. Claims 4-6, 9-11, 17-19 and 23-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Parra, USP 5,146,208

Ruscus, USP 3,867,711

Rodriguez, USP 6,583,724


Stephens, USP 5,563,580

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis R Hunnings whose telephone number is (571) 272-3118. The examiner can normally be reached on 8:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRH


DANIEL WU
SUPERVISORY PATENT EXAMINER
03/14/05